

# PATENT COOPERATION TREATY

## **PCT**



		PCT	-MIX	PCT Application
	INTERN	IONAL PRELIMINARY REPORT (Chapter II of the Patent Cooperation (PCT Article 36 and Part)		PCT/CN2005/00
	-EMVAT	IONAL pp-		
		(Change PRELIMINA Day		
Appli		mapter II of the Day REPORT		
-Ppicant's or agent's c		Patent Cooperati	ON PATENTE	( January Mint an Asiat and and and an asiat a
Applicant's or agent's fi	le reference	(PCT Artist	n Treaty)	BILITV
International	PC	Thucle 36 and Rul	<del>5</del> )	
Thernational application		(PCT Article 36 and Rule 70	)	
International application 1	Vo.	FURTHER		
International Patent Civilian	00225	International filing date (day/month/year)  25.Feb.2005 (25.00)		_
S- Patent Classic	0226	anational filing date (	See Form PC	
See Supplemental Box	cation (IPC)	25 Feb 20 (day/month/year)	PC	T/IPEA/A16
Box	(~ C) or na	25.Feb.2005 (25.02.2005)	Priorit	
		International filing date (day/month/year) 25.Feb.2005 (25.02.2005) ional classification and IPC	at dat	e (day/month/year)
		-10	24.Mar	2004
Applicant				2004 (24.03.2004)
, , , , , , , , , , , , , , , , , , ,				-1.2004)
1. This report is the internation under Article 35 are				
1. This	SITVO			
unda report is the inc	OF CHINA	94.1		1
Article 35 and	nal prelim :	ct ai		- 1
2. This REPORT	itted to the	iminat:		
2. This REPORT consists of a to	ine applica	et al amination report, established by this Internation according to Article 36.  sheets, including this co	_	
3. This report is also accompanie a. \( \begin{align*} \sqrt{sent to the applicant of sheets of the align*} \)	otal of 5	Article 26		1
a so accompanie	d1 -	Tole 30.	ational Prelim.	
(sent to the	d by ANNEXES	sheets, including this co	- veniminary 1	Examinin
Sheet applicant	and .	comprising: neluding this co		Authority
sheets of the descri	ing to the Internat	ion a	ver sheet.	- 1
Instruction Containing r	ectic, claims and	(a Bureau) a total		- 1
\omega she :	concations author	or drawings which 2		
the di which supere	. •	comprising:  conal Bureau) a total of 2 shee  corrections which have been amended are  fixed by this Authority (see Rule 70.16 and  but which this Authority considers contain  ication as filed, as indicated in item 4 of  attentions to the first and form of the Administrative references.	ts, as follow	- 1
Box disclosure in the	ede earlier sheet	(see Rule 70 to	d are the	
b. $\square$ (sent the	international and	but which the	Section Costs of the	dis ro-
Contain to the Internal	аррі	Ication as filed Authority consist	of the	Admin and/or
Relating a sequence in	al Bureau	but which this Authority considers contain ication as filed, as indicated in item 4 of total of (indicate type and number of ated thereto, in electronic form only, as indicates:  items:	) an	Taninistrative
4. This is sequence is the	g and/or tol	total of a	Boy No amendment the	. 1
4. This report contains indications relating  Box No. I Basis of the report of the rep	s (see Section see	ated theret	I and the	goes beyond
Box No. 7 Box No. 7	802	of the Admin electronic f and number of	. •	supplemental
Basis of the	ng to the following	dininistrative Instantionally, as in-	electronic	1
Box No. II P.	ort	items:	icated in the Sur	_
Box No. III Nor			- Supple	mental Box
Box Non-establish				-01
No. IV Lack	of opinion			/
Box No. V  Reasoned states	Years' With re	gard to		$\neg$
Reasoned statement	cinon	to novelty, inventive		1
Citations and	Inder Article 27	step and industri		1
Box No. VI Cont.	ions -	With regard	al applicabilis.	1
Box No. VII Certain documents cit	ous supporting su	sh a search to novelty in.	only	1
Boy N Certain des	ed	a statement statement	.1	1
Date of submission of the demand  27.Oct.2005 (27.10.2004)	Iternos:	. 4111	dustrial application	1
Date of submission of the demand	applica	ition	- Laudinity	·;
me demand	the international			
Name 27.Oct.2005		Pplication		1
	1 7			1
6 Xith State Intellege of the IPFA	Da	te of completion of this report		
Anucheng Rd., Jimes Property Oct		of this report	_	1
The State Intellectual Property Office, the P.R.Ch  6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijin  Facsimile No. 86-10-62019451	ina Ant	12.Jul.2006 (12.07.2006)		$\supset$
Form PCT/IPEA/409 (cover sheet) (April 2005)	ma, / - · · · · ·	orized officer (12.07.2006)	١	1
PCT/IPEA/400 (	rs, China	HUANG Vijie	,	1
(cover sheet)	1	HUANG		1 .
(April 2005)	_ / Teles	I Sim Yyie		1
,	reiepho	One No. 620852	1	
		Me No. 62085252	- 1	1
			1	1

International application No. PCT/CN2005/000226

Box No. I Basis of the report	
1. With regard to the language, this report is based on:	
the international application in the language in which it	was filed
	, which is the language of a
translation furnished for the purposes of:	, which is the language of a
international search (Rules 12.3(a) and 23.1(b))	
publication of the international application (Rule 12.4)	(-1)
☐international preliminary examination (Rules 55.2(a) a	nd/or 55.3(a))
2. With regard to the elements of the international application, this to the receiving Office in response to an invitation under Article annexed to this report):	s report is based on (replacement sheets which have been furnished a 14 are referred to in this report as "originally filed" and are not
•	
the international application as originally filed/furnished the description:	
pages 1-15	as originally meditalmished
pages *	received by this Authority on
pages *	received by this Authority on
☑ the claims:	
magag	
pages *	
pages * 16-17	as amended (together with any statement)under Article 19
pages *	received by this Authority on 03.Jul.2006 (03.07.2006)
pages	received by this Authority on
★ the drawings:	
pages 1-9	as originally filed/furnished
*	received by this Authority on
·	received by this Authority on
a sequence listing and/or any related table(s) - see Suppleme	ntal Box Relating to Sequence Listing.
_	
3. The amendments have resulted in the cancellation of:	
the description, pages	
the claims Nos	1
the drawings shoots/E	
the sequence listing (specify):	
any table(s) related to sequence listing (specify):	
any table(s) related to sequence listing (specify):	
4. This report has been established as if (some of) the amendment since they have been considered to go beyond the disclosure	nts annexed to this report and listed below had not been made, as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
C Abo demonstration	· · · · · · · · · · · · · · · · · · ·
the drawings short (Co.	
the sequence listing (granifile	
any table(s) related to sequence listing (specify):	
* If item 4 applies, some or all of those sheets may be marked "su	
DCT/DEA/400 (D. N. N. N. A. Hann	perseaea.

International application No. PCT/CN2005/000226

Box No. V Reasoned statement under citations and explanations	r Article 35(2) s supporting s	with regard to novelty, inventive step or industrial applicabili such statement	ty;
1. Statement:			
Novelty (N)	Claims	1-3,8-10	YES
	Claims		NO NO
Inventive step (IS)	Claims	1-3,8-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims .		NO

- 2. Citations and explanations (Rule 70.7)
  - D1: CN 1401786 A , 12.Mar.2003 (12.03.2003) description page 1
  - D2: CN 1341665 A, 27.Mar.2002 (27.03.2002) description page 2
  - D3: CN1414002 A,30.Apr.2003 (30.04.2003) description
  - D4: CN 1473836 A,11.Feb.2004 (11.02.2004) see the whole document

D4 discloses a sort of guluronic acid oligosaccharides, wherein the reduced terminal in position-1 is carboxyl radical. Although the structure thereof is similar with the formular II of the invention, the effect between them is different, therefore, the skilled in the art do not develop the formular II of the invention according to the D4, it seems that the novelty and the inventive step could be acknowledged for the subject matter of claim 1-3,9,10 in sense of Article 33(3) PCT.

D1 discloses  $\beta$ -D-mannuronic acid oligosaccharides having mean molecular weight of 2000(HSH-971); D2 discloses a sort of mannuronic acid having polymerized degree of 2-12; D3 discloses mannuronic acid oligosaccharides comprising of six saccharides . These documents do not disclose nor teach the subject of claims 8, therefore, it seems that the the novelty and inventive step could be acknowledged for the subject matter of claim 8 in sense of Article 33(2), (3) PCT .

Claims 1-10 meet the criteria set out in PCT Article 33(4), they have industrial applicability beacause the subject matter claimed can be used in industry.

International application No.

PCT/CN2005/000226

Box No. VIII	Certain	observations or	n the international	application
--------------	---------	-----------------	---------------------	-------------

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The example of the invention only discloses the mannuronic acid oliosaccharises manufactured by mannuronic acid polysaccharises, but the method of claims 4-7 begin with alginate. Those skilled in the art well know that algin comprise mannuronic acid and guluronic acid, the skilled could not acknowledge that alginate can produce mannuronic acid oligosaccharides made of mannuronic acid only, claims 4-7 are not fully supported by the description, they do not meet Article 6 PCT.

International application No.

PCT/CN2005/000226

#### Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

International Patent Classification (IPC) or national classification and IPC

A61K31/702 (2006.01) i

C08B37/00 (2006.01) i

C07H3/06 (2006.01) i

A61P25/28 (2006.01) i

A61P3/10 (2006.01) I

Some amendments in claims beyond the disclosure as filed:

The steps in claim 4 are different from those disclosed in the initial application and cannot be directly or undoubtedly deduced from the initial disclosure, therefore, such amendments beyond the intial disclosure, because:

The steps for producing formular II disclosed in the initial disclosure as followed: addition the oxidant to the solution of algin oligosaccharides, wherein, the solution of algin oligosaccharides is produced by hydrolysis and adjusting the pH value, however, the steps in claim 4 add the procedure for adjusting the pH value after the oxidized step, therefore, such amendments beyond the intial disclosure.